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AUTHOR Chuang, Ying C.
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ABSTRACT

Under the present practices, the objectives and activities of socially oriented projects have rarely been specified with enough clarity and concreteness. Alternatives have been insufficiently presented for consideration by top management. In a number of cases, the future costs of present decisions have not been laid out systematically enough and system analysis has had too little effect on budget decisions. To help remedy these shortcomings, the cost-effectiveness planning system is being processed for possible use in educational communications. This paper presents and illustrates this system and some of the implications of implementing it. (Author)

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AN EDUCATIONAL PLANNING SYSTEM: COST-EFFECTIVENESS APPROACH

Ying C. Chuang, Ph.D.
Center for Urban Education
105 Madison Avenue
New York, New York 10016

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AN EDUCATIONAL PLANNING SYSTEM: COST-EFFECTIVENESS APPROACH

One of the problems of socially oriented programs in this country is that the goals and objectives of the project design, and the development of the various activities have not often been specified with clarity or concreteness. Alternatives have not been sufficiently presented to top management. The future year cost proposals of present decisions have not been laid out systematically enough; and formalized planning and systems analysis have had too little effect on program and budget decisions. The urban school system has been plagued by this problem.

To help remedy these shortcomings, the Cost Effectiveness planning systems should be developed to provide more effective information and better data gathering systems to make a more reliable assessment of our overall status.

This analysis would seek to assist top decision-makers in judging needs, and in deciding on the use of resources and their allocation among the alternatives.

The basic assumptions of this system are: (1) The existence of a cost-effectiveness planning process which incorporates and uses an information system to present data in meaningful categories is essential to the making of major decisions by top decision-makers; (2) The existence of a cost-effectiveness planning system can take broad program decisions and translate them into more refined decisions in a budget context, and present the appropriate program and financial data for top decision-maker's action; (3) The existence of a cost-effectiveness planning

system will carry out continuing in-depth analysis to meet the goal in a most effective way.

There are the following tasks to be performed in order to develop this system (see Charts 1 & 2).

Task 1 - A Subsystem to Define Educational Needs/Problems

Educational systems must be viewed as components of the larger socio-economic environment. Recognition by the community of the contribution the educational component must make to this larger environment will lead to the identification of those areas where greater effort is required or areas that have been completely overlooked. These problem areas may be defined generally such as, "the need to increase citizen participation in a community." The emphasis in this step, however, should be directed toward defining the need rather than solving the problem, and should result in a list of needs or problems of the community ranked in order of priority.

Task 2 - A Subsystem to Formulate Goals and Objectives

Broad statements should be defined in terms of how a plan meets the needs identified in Task 1. These goals should be ranked in order of priority and/or weighted. This is the top level statement of the goal structure and will constrain and guide all further development. Lower level goals which support and contribute to the top level statements must also be identified, ranked and/or weighted. Ranking is the technique of comparing goals on the same level to each other to determine their order of importance. Weighting is a sophisticated method of assigning an arbitrary number of "weight" to a specific goal to depict the relative emphasis

CHART 1: Educational Planning Milestones

TASK	FUNCTION	MILESTONE
1	Recognize and define educational needs	A statement of education needs in priority order
2	Formulate goals and objectives	A statement of the restated goals and objectives A ranked and/or weighted list of goals and objectives
3	Establish goal and objective measurement	A description of the established data, common, time, unit of measurement
4	Establish selection criteria	A statement of the criteria for selection and rejection of alternate programs
5	Identify overall constraints and requirements	A statement of overall constraints and requirements
6	Develop alternate programs and identify required program activities, time frames and resources	A description of alternative activities and resources required for each activity . Equipment . Personnel . Facilities . Materials
7	Apply cost to each alternative program	A statement of the cost of each program
8	Define anticipated benefits of alternative program	A statement of the benefits of each program
9	Program evaluation and synthesis	A statement of the result of the cost/benefit analysis
10	Prepare implementation plan	A statement of . Schedule . Personnel assignment . Resource assignment
11	Manage resources	A statement of monitoring program results
12	Assess results	A statement of final program results
13	Recycle steps	. Feed back to Step 1

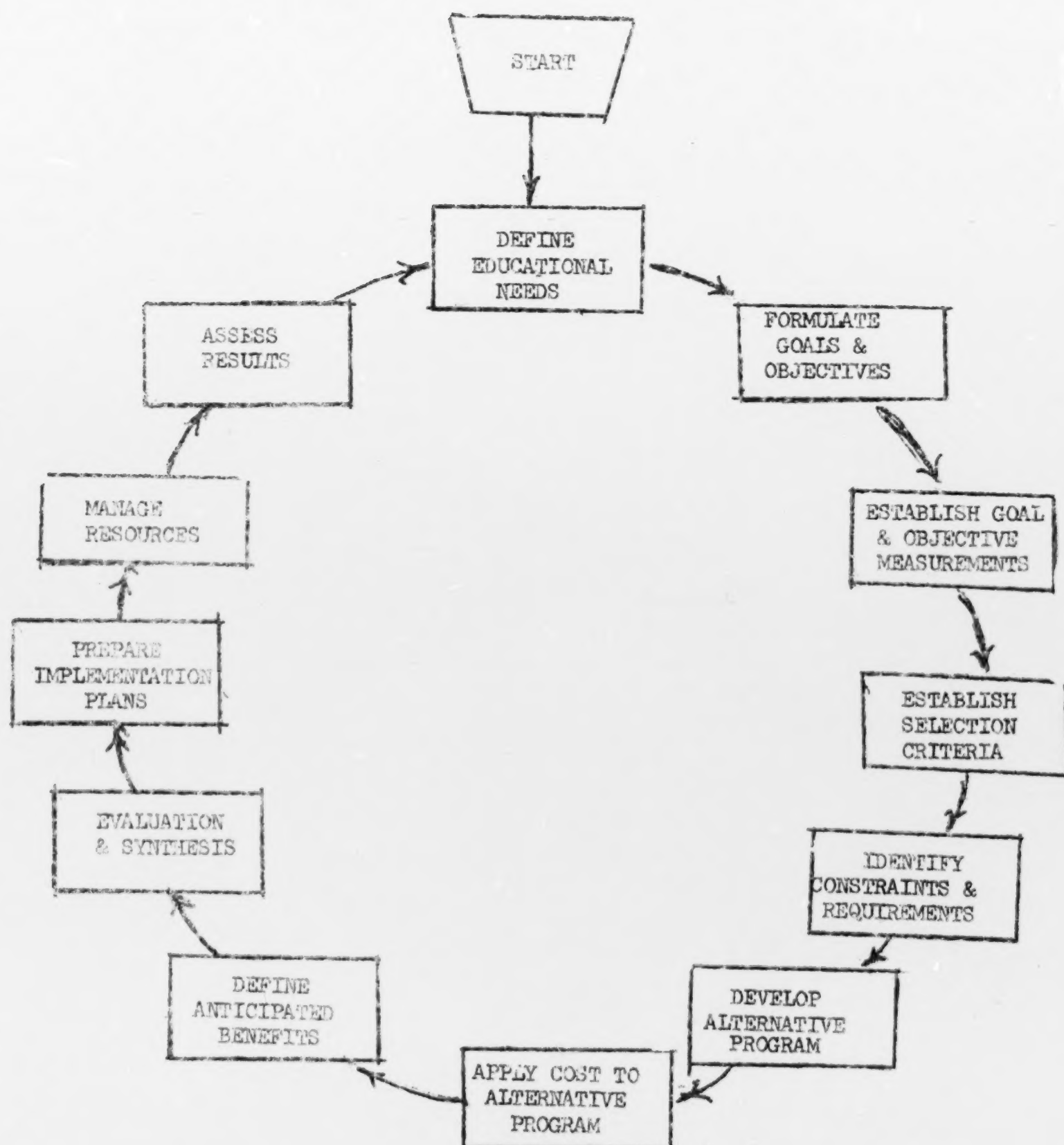


CHART 2: Educational Planning Process

of that goal in relation to other goals on the same level. For example, ranking of Goals A through E on the first level may appear as shown below:

<u>Goal</u>	<u>Ranking</u>
A	4
B	3
C	1
D	5
E	2

That is, Goal C would be the most important of the five goals and Goal D the least important.

Weighting these same goals on a scale of 100 may appear as:

<u>Goal</u>	<u>Rank</u>	<u>Weight</u>
A	4	15
B	3	15
C	1	35
D	5	10
E	2	25
		100

The identification of goals, coupled with a concept of how these goals could be achieved, will lead to the identification of objectives. Objectives on the same level should be ranked and/or weighted in a priority order as described in Task 2. Lower level objectives that support and contribute to higher level objectives should also be identified, ranked and/or weighted.

Task 3 - A Subsystem to Establish Goal and Objectives Measurement

By definition, objectives must be quantifiable. Therefore, it is necessary to define the method by which the achievement of the objective can be assessed. These evaluative criteria should include data requirements and units of measure within a specified time frame.

Task 4 - A Subsystem to Identify Overall Constraints and Requirements

The established goals and objectives should be reviewed to identify any possible limiting constraints and implied requirements. These constraints may be political, financial, demographic, social, technological, or geographic. All identified constraints should be documented and related to their corresponding goal and objective.

Task 5 - A Subsystem to Establish General Selection Criteria

To establish requirements which will assist in evaluation of alternative programs, general selection criteria should be established for each element. Some criteria may apply to all elements. Some will be unique to a particular program. These selection criteria should be formally documented for each element.

Task 6 - A Subsystem to Set Alternate Programs

Potential solutions to the educational requirements identified in the statements of goals and objectives must be developed in a program format and subsequently subjected to system analysis. This is a critical step. Choosing the best of two poor solutions may not meet program requirements. Hence, it may be necessary to create new program alternatives.

A detailed analysis of the program activities necessary to meet stated objectives should be documented on a Program Data Sheet. Total resource requirements should be identified. Elements common to most programs include personnel, materials, facilities, and services.

Task 7 - A Subsystem to Apply Cost to Alternate Programs

The potential cost of each alternate program should be determined and documented. The procedure for applying cost to alternate programs should be described. For system analysis, particular attention should be directed toward identifying costs for the total program life.

Task 8 - A Subsystem to Define Anticipated Benefits of Each Program

Benefits, the desirable outcomes of educational programs, can generally be measured in terms of the unit of measurement associated with the goal and objective. Determining the benefit value of alternate programs will provide a rational basis for the selection of recommended programs.

Important consideration in the analysis of educational program benefits is the recognition and specification of who benefits and when.

Anticipated benefits which would be associated with each alternate program should be predicted in terms of the evaluative criteria of the objective.

Task 9 - A Subsystem for Program Evaluation and Synthesis

The next task for this planning system is to compare the relative costs and benefits of alternate programs and then, by discarding and/or synthesizing alternate programs, complete the selection of the recommended programs.

Costs and benefits for each alternate program should be evaluated with respect to the following:

- . Selection Criteria
- . Overall Constraints and Requirements
- . Goals/Objectives
- . Relationship of Benefits to Costs

Task 10 - A Subsystem to Prepare Implementation Plan

Once a program has been recommended and approved, a detailed implementation plan should be developed. This plan should include a time schedule for initiation of the program, assignment of required resources and responsible personnel.

Task 11 - A Subsystem to Manage Resources

After a program has been implemented, management action is required to ensure the achievement of objectives on schedule within the budgeted resources. It can not be assumed that the costs, and/or benefits will maintain the same value as in the initial analysis. Time, for example, becomes more valuable as the end of a semester approaches, if a particular objective has a short time frame. The process for reallocation of resources is precisely the same as the process required for initial allocation.

Task 12 - A Subsystem to Assess Results

An essential factor in System Analysis is the assessments of results. It is important to determine whether the recommended and the implemented program achieved the stated goals and objectives within the anticipated time frame and budget. The effectiveness of a given program

can be assessed by comparing the actual performance with the planned or anticipated performance in terms of program accomplishments, resources expended, and time required.

Task 13 - A Subsystem to Recycle Activities

If this analysis indicates that the program has not achieved the desired results, the complete system analysis process can be repeated in view of existing facts. Further analysis may indicate the need for a program revision or the development of an entirely new program.

The school districts throughout the country are under pressure to provide better education and more information to the community. Taxpayers and parents, reacting to substantial increases in their state and local taxes, and to reports of poor performance and turmoil in schools have voted down bond issues. Students of all ages question the relevance and validity of their education, and teachers seek a greater voice in decisions which affect the educational policies of the schools. Administrators, who must respond to local pressures as well as meet new reporting requirements of state and federal agencies, find that planning and managing school district activities are increasingly complex jobs for which existing management systems are not adequate. In order to meet internal and external demands, the proposed educational planning system will be useful in school system application.

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